

applied to another species, Busk's name must displace it. Mr. Waters has obtained *Lepralia imbellis* from the New-Zealand Tertiaries*.

As to the supposed identity of *L. lancifera* and *L. imbellis*, I hesitate to give a decided opinion; but on a careful comparison of Busk's description and figure of the latter with a fine specimen of *lancifera* from South Africa, for which I am indebted to Miss Jelly's kindness, I have noted the following differences between them, which are by no means unimportant. In Busk's diagnosis (which is meagre and insufficient) the cells are merely characterized as "ovate, punctured, especially round the border; subumbonate in front, with an orifice having a straight lower border and simple peristome." It is obvious that there is nothing very distinctive in this description; it would apply to a multitude of forms. One clause of it, however, is certainly inapplicable to *L. lancifera*—"subumbonate in front." Probably the most striking feature of the latter is the large umbonate rising of the front wall below the orifice, on which the long lanceolate avicularium is borne. Referring to Mr. Busk's figure, we find no adequate representation of this structure. In *L. lancifera* the zoecia are bounded by strongly marked raised lines, which are not present in *L. imbellis*. The oecium of the last-named, as shown in Busk's figure ('Crag Polyzoa,' plate iv. fig. 6), differs widely from that of *lancifera*. The entire absence of all traces of avicularia on the fossil form, except on the suboral umbo, whilst they are present in profusion on the recent species, especially in the neighbourhood of the oecium, is another difference of some significance. On the whole, without venturing to dogmatize, I am inclined to regard the two forms as probably specifically distinct †.

XXVII.—New Geometers.

By Col. C. SWINHOE, M.A., F.L.S., &c.

THE species described in this paper will appear in the second volume of the 'Catalogue of Moths in the Oxford University Museum'; and as the publication of this book will be delayed, from unavoidable causes, for some months, the following new species are now published to ensure the types to the Public Museums of London and Oxford.

* "On Tertiary Cheilostomatous Polyzoa from New Zealand," Quart. Journ. Geol. Soc. for February 1887, p. 40.

† Further investigation of the fossil form is much needed.

Family Euschemidæ.

Genus EUSCHEMA, Hübn.

Euschema scyllea.

♂. Head, body, and wings yellow; antennæ black; thorax with indications of two grey spots in front, but without bands. Fore wings with the apical half black, its inner border extending straight from the centre of the costa to the hinder angle, angled inwards in its centre; the blackish space includes two bluish-white semihyaline macular bands, the first of four and the second of three spots; no markings in the internal half of the wing. Hind wings whitish on the costa; a blackish elongated spot at the end of the cell, and a macular marginal blackish band, the first three spots near the apex large and running into each other, followed by three small spots, the last two curving inwards. Underside as above, except for a spot at end of cell of fore wings, which is slightly visible above through the wing.

Expanse of wings $3\frac{2}{10}$ inches.

Type: India. In O.M.

Allied to *E. militaris*, but very distinct, having no bands on the thorax and no internal bands on either wing.

Family Geometridæ.

Genus HEROCHROMA, nov.

Differs from the genus *Pingasa* in the males having simple, not pectinated, antennæ as in that genus.

Herochroma baba.

♂. Wings shaped similarly to *H. viridaria*, Moore; colour of a uniform grass-green, somewhat similar to but brighter than in *H. subtepens*, Walker, xxi. 438, type from Sarawak, but also a common Indian insect. Both wings crossed by an outwardly dentated brown discal line, black marginal lunules at the ends of the veins, a row of submarginal white dots on the veins, a black spot at end of each cell. Underside with the ground-colour greyish white, smeared with dark ochreous, a large black spot at end of each cell, a broad discal band across both wings, and black marginal lunules.

Expanse of wings $1\frac{8}{10}$ —2 inches.

Type: Khasia Hills. In B.M.

A long series. Allied to *H. viridaria*, but of an entirely different shade of green colour, and without the bronze tessellations with which that insect is covered and without the reddish-brown bands.

Genus ABSALA, nov.

♂ ♀. Costa arched, inner margin slightly rounded, more than two thirds length of costa, outer margin nearly as long as inner, slightly rounded, scalloped between the veins in both wings. Hind wings with the apex rounded; venation of both wings normal, except that vein 5 of hind wings is emitted very close to the top of the cell. Antennæ in both sexes bipectinated to the tip with short bristles, slightly shorter in the female than in the male. Hind tibiæ with two pairs of spurs.

Differs from the genus *Pachyodes* (type *hæmataria*, H.-Sch.) in its longer and rounder wings, in the closeness of the origin of vein 5 of hind wings to the top of the cell; the pectinations of the male are similar, but the female of *Pachyodes* has simple antennæ.

Absala dorcada.

♂ ♀. Of a uniform milky-white colour; antennæ reddish ochreous, palpi with bright chestnut-red hairs, fore and middle legs of the same colour, front of head ochreous; wings striated with olive-grey, more densely in the outer portions, forming discal and submarginal bands on the hind wings. Fore wings with a small patch of olive-grey on costa before the middle and four or five large patches at the apex; olive-grey marginal lunules to both wings, and the large black cell-spots of the underside showing through the wings, and a black spot on the hind wings on the space where the spot from the underside can be seen. Underside pure white; base of both wings and thorax and hind legs suffused with bright ochreous; costa of fore wings marked with black, some black patches and black marginal lunules at apex, a large round black spot at end of each cell, one in the first median interspace of fore wings, and two large and similar spots on the disk of the hind wings, one towards the apex and the other near the abdominal margin.

Expanse of wings $2\frac{3}{10}$ inches.

Type: Khasia Hills. In B.M.

Genus EPISOTHALMA, nov.

♂. Fore wing more or less falcate, with costa arched before the apex, outer margin excavated below the apex, produced at end of excavation above the middle, from whence it is oblique to the inner angle, which is somewhat acute, scalloped between the veins; inner margin very slightly rounded, nearly

straight. Hind wing with the apex rounded, outer margin toothed, with tail-like extremities at terminations of veins 4 and 6.

Allied to genus *Thalassodes*, Guen. (type *quadraria*, Guen.); venation normal, but has fasciculate antennæ in the male, instead of pectinate, as in that genus.

Type *sisunaga*, Walker, xxiii. 550.

Genus TANAORHINUS, Butler.

Tanaorhinus kina.

♂. Of a uniform dark shining green colour; antennæ with the shaft green, pectinations dark grey; palpi black, frons bright ochreous. Wings with pale greenish-white markings; fore wings with a lunular mark at the end of the cell and a lunular band near the base; both wings crossed by a discal band of lunules, with a band of lunular spots adjoining on its outer side and a submarginal line of inverted lunules; cilia white. Underside pale green, the hind wings being slightly tinged with yellow; fore wings with a black spot at the end of the cell; both wings crossed by a black macular discal band somewhat near the margin on the hind wing, the spots are joined together more or less, making the band nearly complete; on the fore wings the spots are smaller, not together, and double as they go upwards; marginal line black, cilia white; body pale greenish grey, legs green, tarsi with black bands.

Expanse of wings $1\frac{8}{10}$ –2 inches.

Type: Khasia Hills. In B.M.

Allied to *T. dimissa*, Walker, xxii. 516, but much smaller; can easily be distinguished by the difference in the markings below, the latter having a nearly straight black band from the abdominal margin of hind wings a little beyond the middle to the costa of fore wings near the apex; the submarginal band of *dimissa* also is very differently situated and does not extend up the fore wings.

Family Idæidæ.

Genus SYNEGIOIDES, Swinhoe.

Synegioides diffusifascia.

Synegioides diffusifascia, Swinhoe, Trans. Ent. Soc. Lond. 1892, p. 11 (woodcut).

By some error the type of this genus is put down as *S. diffusaria*, Moore, P. Z. S. 1867, p. 641; this is a slip of the pen,

it should have been *sanguinaria*, Moore, with the same reference; the description of the genus and the woodcut were both taken from the latter species.

Genus IDEÆA, Treit.

Idea peralba.

♂ ♀. White glistening; a black dot at end of cell in all the wings, black dots on the outer margins. Wings covered with very minute grey irrorations; costa of fore wings grey, five transverse grey bands, first before the middle and outwardly curved, second medial and sinuous, third, fourth, and fifth close together, the fifth being marginal, and all sinuous. Hind wings with four bands, the first before the middle in continuation of the second band of the fore wings, second, third, and fourth at even distances corresponding to the third, fourth, and fifth of fore wings; fringe long, pure white.

Expanse of wings 1 inch.

Type: Fort Stedman, Shan States. In B.M.

Genus DEFOA, nov.

♂. Fore wings with the costa slightly arched before the apex, outer margin rounded, inner margin straight, four fifths the length of the costa. Allied to the genus *Somatina* (type *anthophilata*, Guen.). Hind wing with vein 7 emitted at end of cell, instead of before it, as in that genus; mid tibiæ with two spurs; hind tibiæ greatly incrassated, a tuft of long hairs from the upper end; hind tarsi obsolete, there being merely a small point at the end of the tibiæ.

Defoa ustata.

♂. Dark olive-grey, patched and suffused with chestnut-brown. Fore wings with a white lunular mark at the end of the cell, margined with brown, a large chestnut-brown patch covering nearly the whole discal space, extending from inner margin nearly to the costa, where it is rounded and margined with dark brown. Hind wings with a similar-coloured but much paler patch, which extends nearly evenly from the abdominal margin to the costa, is striated with black, covers more than half the wing-space, and has a sinuous outer margin near the outer margin of the wing; a small white cell-dot with a brown margin, and marginal lunules to both wings brown. Underside of a uniform pale brownish grey, with black suffusion on lower half of fore wing and costal space of

hind wing, which runs down the outer border a short space ; fore wing with a black spot at end of cell and a black discal band ; hind wings with a similar internal band.

Expanse of wings $1\frac{1}{10}$ inch.

Type: Khasia Hills. In B.M.

Family Boarmiidae.

Subfamily CABERINÆ.

Genus MICRONIODES, Hampson.

Microniodes, Hampson, Ill. Typ. Lep. Het. B. M. ix. p. 139 (1893).

Microniodes ocernaria.

♂. Pure white ; antennæ ochreous brown, top of head chestnut-brown, frons pure white ; body and wings pure white, wings with ochreous-brown lines and bands ; fore wings with a costal band, an inner line running from the inner margin near the base towards the end of the cell, where there is a similarly coloured dot, and three submarginal spots at the apex ; both wings with a medial band composed of a line outwardly shaded with paler colour from the abdominal margin of hind wings one third from the base to the apex of fore wings ; a line from the abdominal margin one third from the anal angle to the apex of fore wings, stopping before the third apical dot ; a submarginal rather indistinct angulated line, most distinct on hind wings, and a marginal line ; cilia of the same colour, paler than the lines, and with pale tips. Underside pure white, unmarked ; costal and marginal lines ochreous brown, cilia as above.

Expanse of wings $1\frac{6}{10}$ inch.

Type: Khasia Hills. In B.M.

Allied to *M. obliqua*, Hampson, which lacks the inner and discal lines and is a larger insect.

✧ Subfamily PLUTODYNÆ.

Genus MICRONISSA, Swinhoe.

Micronissa, Swinhoe, Trans. Ent. Soc. Lond. 1891, p. 483.

Micronissa dephinaria.

♂. White. Fore wings with the costa pale ochreous ; wings thinly clothed, crossed by indistinct grey lines—first an antemedial line somewhat distorted, second a medial line, straight on fore wings, sinuous and partly dentated on hind wings, third a discal line dentated on both wings, very indis-

tinged; marginal line brown, a reddish-brown spot on the angle in the second median interspace of the hind wings, edged with pure white on its inner side. Underside pure white, without any markings.

Type: Khasia Hills. In B.M.

This species is the type of the genus *Micronissa*, and was wrongly identified in my paper above referred to as *margaritata*, Moore (*Urapteryx margaritata*, P. Z. S. 1867, p. 612), the type of which is unique, and which, though superficially like this species, belongs to another genus.

Subfamily ENNOMINÆ.

Genus HYPOSIDRA, Guen.

Hyposidra kala.

♂ ♀. Of a uniform dark slaty mouse-colour; wings with two transverse brown central bands, both bands indistinct, rather broad, rather close together, and curving slightly outwards, the entire surface above thickly covered with very minute whitish irrorations. Underside as above, the whitish irrorations thickened into a whitish smeared band on the outer margin of fore wings below the apical falcation.

Expanse of wings, ♂ 2, ♀ $2\frac{1}{2}$ inches.

Type: India. In O.M.

Subfamily ZERENINÆ.

Genus OBEIDIA, Walker.

Obeidia lucifera.

♂ ♀. Head and body ochreous; thorax with brown spots, abdomen with brown bands. Wings white, with a broad band on all the margins, ochreous spotted with brown in some specimens, but the brown prevailing in others; in some specimens, especially in the females, the bands are macular, much as in the Chinese species *O. tigrata*; on the hind wings there is also a brown macular discal band.

Expanse of wings, ♂ $2\frac{7}{10}$, ♀ $2\frac{8}{10}$ —3 inches.

Type: Darjiling. In O.M.

Differs from *O. tigrata* in the ground-colour of the wings being pure white instead of dark ochreous, as in that species.

Genus ABRAXAS, Leach.

Abraxas conferta.

♂. Thorax and abdomen ochreous, with brown spots.

Wings white; fore wings with three broad pale greyish macular bands, first basal, on an ochreous ground-colour, broadly continued on the costa till it reaches the second, which is oblique, has an ochreous central band, and bifurcates towards the costa, one portion going towards the apex, the outer portion of this band joining the marginal band. Hind wings with a faint discoidal spot, some faint spots on the outer and abdominal margins, and a discal curved band of faint single spots.

Expanse of wings 2 inches.

Type: India. In O.M.

Subfamily *MACARINÆ*.

Genus *EVARZIA*, Walker.

Evarzia odataria.

♂. Grey, striated with reddish grey; costa of fore wings with some dark reddish-brown marks, some similar marks near the base; both wings with a sinuous irregular antemedial brown transverse line; a discal dark brown straight double band from the abdominal margin of hind wings near the angle to the costa of fore wings one fourth from apex, the space from this band to the margin of a darker and rather purplish shade; a blackish spot on the outside of the central portion of the band on both wings; marginal line black; cilia grey; a black dot at end of cell in hind wings interrupting the antemedial line. Underside greyish white, with brown striations, subbasal and antemedial brown sinuous transverse lines, the outer band broad, not duplex, touching the outer margin in the fore wings below the apex, leaving an upper and a lower marginal patch of white, and touching the margin in the hind wings at the apex, leaving a lower marginal patch of whitish.

Expanse of wings $1\frac{4}{6}$ inch.

Type: Khasia Hills. In B.M.

I have this species also from Darjiling and from Sikkim. It is allied to *E. avitusaria*, Walker, from Sarawak, the type of which is in the Oxford Museum.

Genus *GONODELA*, Boisd.

Gonodela azataria.

♂ ♀. Pale ochreous brown, irrorated and marked with chestnut-brown and marked here and there with minute patches of whitish; both wings crossed by an indistinct median straight band; a discal dark duplex band from the

abdominal margin of hind wings one third from apex to the apex of fore wings, where it bends in on to the outer margin below the apex, and then is elbowed back on to the costa, where there is an angulated mark before the apex and a sub-apical white dot; submarginal line pale sinuous and marginal line dark and distinct; cilia pale interlined with dark brown; a square whitish spot at the base of the first median interspace of fore wings. Underside paler, suffused with ochreous, both wings crossed by three upright blackish bands, the two white spots on fore wings very distinct.

Expanse of wings $1\frac{1}{10}$ inch.

Type: Khasia Hills. In B.M.

Genus ZAMARADA, Moore.

Zamarada cosmioria.

♂. Bright grass-green; antennæ, head, and body brown; a black dot at end of each cell. Fore wings with the costa pale ochreous grey, speckled with chestnut-brown; outer margins of both wings with a chestnut-red band, excavated on its inner side below the middle on each wing, and with a pale sinuous line running through the band. Underside as on upperside, band darker towards apex of fore wings.

Expanse of wings 1 inch.

Type: Khasia Hills. In B.M.

Allied to *Z. scriptifasciata*, Walker, xxvi. 1566, type from Sarawak, and *Z. translucida*, Moore, from Ceylon; wings greener and much better clothed, band very much narrower. In both these species the wings are almost hyaline.

Subfamily BOARMINÆ.

Genus OPTHALMODES, Guen.

Opthalmodes cordularia.

♂. Green, suffused with white; antennæ brown; top of head green; thorax green, smeared with white in parts; abdomen reddish ochreous, white at the base, with black bands; both wings bright olive-green, striated and smeared with white, this colour prevailing at the base and central portions and along the discal band. Fore wings with the costa marked with black spots and patches, interrupted with white; a blackish lunule, edged inwardly with white, on a dark olive-green space at end of cell; a black patch just beyond centre of inner margin, corresponding to a broad black band on hind

wing just before the middle, which is broken and attenuated towards the costa of that wing, and is accompanied on its outer side by an indistinct, dentated, and interrupted black line; an outwardly dentated discal band somewhat near the margin across both wings; this band is marked with deep black in places and is interlaced with white; marginal lunules black, cilia white, with black patches. Underside pure white, a large round black spot at end of each cell, black markings on costa of fore wings, and a black apical patch with its extreme apex white, and a submarginal black broken band.

Expanse of wings $2\frac{2}{10}$ inches.

Type: Khasia Hills. In B.M.

A beautiful species, nearest to *O. diurnaria*, Guen., which it resembles in the markings on the underside.

Genus PSEUDOCOREMIA, Butler.

Pseudocoremia dendrellaria.

♂. Pinkish white, thickly striated with brown. Fore wings with a subbasal blackish-brown transverse band, which occurs more indistinctly on the hind wings; a medial broader and similarly coloured band, which is elbowed outwardly below the middle and joins a discal lunulate brown band, which is pale-edged on its outer side and is much curved inwards; the space between the bands with few striations and nearly white, the whole space beyond the discal band brown, with striations; this band is also faintly indicated on the hind wings and is there even with the outer margin, and the space between it and the outer margin is also darker-coloured than the rest of that wing, and there is a submarginal pale dentated indistinct line across both wings; marginal line brown; cilia pale, interlined with brown. Underside pale grey, tinged with ochreous; transverse bands similar, but paler than on the upperside; a broad brown marginal band to the fore wings, an indication of a similar band on hind wings, and a brown spot at the end of the cell.

Expanse of wings $1\frac{5}{10}$ – $1\frac{6}{10}$ inch.

Type: Khasia Hills. In B.M.

Family Larentiidae.

Genus EPIRRHOË, Hübner.

Epirrhoë pallidaria.

♂. Grey, head and body densely irrorated with brown atoms. Fore wings irrorated with grey atoms; basal portion brown, limited by a darker brown outwardly curved sinuous

line at one fifth from base; a broad medial brown band with outwardly curved darker brown borders, the band widening above and containing a dark brown spot at the end of the cell; the pale spaces with indistinct incomplete grey sinuous lines thickening into a band towards the apex. Hind wings unmarked; both wings with a lunulated dark brown marginal line.

Expanse of wings 1 inch.

Type: Kala Pau, Punjab. In B.M.

Genus COREMIA, Guen.

Coremia ocyptaria.

♂. Blackish brown. Fore wings with two transverse sinuous deep black lines, antemedial and postmedial, the inner one recurved, the outer one curved outwardly, both of them edged outwardly with grey, prominent and broader towards the costa, where each ends in a deep black prominent patch; veins whitish. Hind wings pale brown, with indications of a darker thin transverse band beyond the middle; cilia of both wings brown, with a basal pale pinkish-grey line. Underside of a uniform pale brownish grey, with an indistinct brown thin band across the disk of both wings.

Expanse of wings $1\frac{1}{2}$ inch.

Type: Khasia Hills. In B.M.

I have it also from Kurseyong; it is closely allied to the genus *Coremia*, but is not quite typical.

Genus CHRYSOCRASPEDA, Warren, MS. ined.

Chrysocraspeda cerasina.

♂. Purplish red, with a few red irrorations and silver speckles. Fore wings with a minute dark reddish ringlet at the end of the cell, and with a duplex linear mark in the upper disk. Hind wings with a prominent white lunular mark at the end of the cell and an indistinct sinuous reddish discal line. Both wings with dark reddish-brown marginal bands and luteous cilia.

Expanse of wings $\frac{9}{10}$ inch.

Type: Ceylon. In B.M.

Allied to *C. abhadra*, Walker; the marginal band darker and narrower, colour uniform, the sinuous discal band in fore wings replaced by a short duplex linear mark, and the cell-spot in hind wings replaced by a prominent white lunule.